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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,300	09/20/2005	Takashi Ishidoshiro	MEST093	1897

58766 7590 12/28/2009

Beyer Law Group LLP
P.O. BOX 1687
Cupertino, CA 95015-1687

EXAMINER	
KHAN, MEHMOOD B	
ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
12/28/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOmail@beyerlaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/550,300	ISHIDOSHIRO, TAKASHI	
	Examiner	Art Unit	
	MEHMOOD B. KHAN	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/04/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/04/2009 has been entered.

Response to Arguments

Applicant's arguments filed 11/04/2009 have been fully considered but they are not persuasive.

Please see rejection below. Some of the limitations have changed from the previous action, however Wallstedt still teaches the newly added limitations.

Applicant argues in the remarks that Wallstedt does not teach diversity reception.

The Examiner respectfully disagrees and asks the Applicant to read the respond to arguments provided with the Advisory Action mailed from the office on 10/05/2009.

The claimed limitations have been met.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 and 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallstedt et al. (US 5,903,834 herein Wallstedt) in view of Diener et al. (US 2004/0102198 herein Diener).

Claim 1, Wallstedt discloses (a) an information processing unit operable to process a digital signal based on a communication protocol for communicating via the wireless local area network **(see Col 6: 21-25, 45-49, where Wallstedt discloses a hub with radio protocol),** Wallstedt discloses (b) a sending antenna case that includes: (i) a sending antenna **(see Fig. 3: 6 and 7, where Wallstedt discloses antennae for sending and receiving, thus the antenna case including an antenna)**, Wallstedt discloses a (ii) sending signal conversion unit **(Fig. 3: 14)**, wherein the sending signal conversion unit is operable to convert a digital signal from the information processing unit to a radio frequency signal for the wireless local area network **(Col 5: 23-29, Fig. 3: 14, where Wallstedt discloses that a signal is up converted to RF and correspondingly sent)**, and the sending antenna is operable to send the converted radio frequency signal to the terminal device **(Col 5: 29, where Wallstedt discloses transmission by the transmit antenna)**; Wallstedt discloses (c) a plurality of receiving antenna cases around the sending antenna case **(Fig. 2: 3a-3d; where Wallstedt discloses RADs in proximity to each other, i.e. around each other)**, Wallstedt discloses wherein each one of the plurality of receiving antenna cases includes: (iii) a receiving antenna **(Fig. 3: 6, where Wallstedt discloses a receiving antenna),** Wallstedt discloses (iv) a receiving signal conversion unit **(Fig. 3: 8)**, wherein each one of the receiving antennas is operable to receive a radio frequency signal from

the terminal device **(Col 4: 61, where Wallstedt discloses transmission and reception in a subcell, thus RF reception by an antenna when a signal is transmitted),** Wallstedt discloses wherein the receiving signal conversion unit is operable to convert the radio frequency signal received from the terminal device to a digital signal for the information processing unit **(Col 5: 11-21, Fig. 3: 8, where Wallstedt discloses down conversion of a received signal)**; Wallstedt discloses (d) a main unit case that is separated from the sending antenna case and the plurality of receiving antenna cases **(Fig. 2: 2, where Wallstedt discloses a hub, Figs 2 and 3, show a link 4, to the so thus separated)**, Wallstedt discloses includes the information processing unit and a receiving synthesis unit **(Fig. 5: 24 and 26, where Wallstedt discloses signal processing, i.e. receiving synthesis unit, and radio protocol handling, i.e. information processing unit)**, Wallstedt discloses wherein the receiving synthesis unit is operable to perform diversity receiving with respect to the received radio frequency signals from the plurality of receiving antennas: **(Col 6: 50-60, where Wallstedt discloses diversity combining; Fig. 7: 29, where Wallstedt discloses signals from different RADs supplied to the signal processing for diversity combining)**, Wallstedt discloses (e) a sending wire cable operable to transmit the digital signal from the information processing unit to the sending signal conversion unit **(Col 6: 5-7, Fig. 3: 4, where Wallstedt discloses a wire capable of sending data between the hub and RAD)**; Wallstedt discloses (f) a plurality of receiving wire cables operable to transmit the digital signal from the plurality of receiving signal conversion units to the receiving synthesis unit **(Col 6: 5-7, Fig. 3: 4, where Wallstedt discloses a wire capable of sending data between the hub and RAD)**.

Wallstedt does not explicitly disclose the terminal device is located between the sending antenna case and the receiving antenna case

In an analogous art, Diener discloses the terminal device is located between the sending antenna case and the receiving antenna case **(Fig. 11: 100, 230, 200, 210, 220, where Diener discloses a target device between a Master Reference Terminal and reference terminals)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wallstedt to locate terminals in the network as taught by Diener so as to locate a possible interferer in the WLAN **(0003)**.

Claim 3, Wallstedt discloses wherein the transmission of the digital signal by the wired cable is either one of serial transmission **(see Col 6: 4-5, where Wallstedt discloses serial transmission)**.

Claim 4, Wallstedt discloses wherein the wired cable, in addition to transmission of the digital signal, performs transmission of a control signal **(see Col 6: 4-5, where Wallstedt discloses control and overhead information).**

Claim 5, Wallstedt discloses wherein the wired cable is coaxial cable **(see Col 6: 8-9, where Wallstedt discloses it is well known to use Coaxial cables)**.

Claim 6, as analyzed with respect to the limitations as discussed in claim 1.

Claim 7, as analyzed with respect to the limitations as discussed in claim 1.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wallstedt in view of Diener in view of Ogawa (US 2003/0185287).

Wallstedt discloses wherein the signal conversion unit comprises: a frequency conversion unit that performs conversion between the radio frequency signal and an intermediate frequency signal having lower frequency than the radio frequency signal **(see Col 5: 11-15, where Wallstedt discloses conversion to IF from RF)**;

Wallstedt in view of Diener does not disclose a modem unit that performs modulation and/or demodulation between the intermediate frequency signal and a base band signal; and a base band unit that performs conversion between the base band signal and the digital signal.

In an analogous art, Ogawa discloses a modem unit that performs modulation and/or demodulation between the intermediate frequency signal and a base band signal; and a base band unit that performs conversion between the base band signal and the digital signal **(see Fig. 1 and 2: 14, where Ogawa discloses conversion of an IF signal to a baseband signal)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wallstedt in view of Diener to include conversion between IF and base band with the teachings of Ogawa so as to provide for high efficiency **(see 0009)**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEHMOOD B. KHAN whose telephone number is (571)272-9277. The examiner can normally be reached on Monday - Friday 8:30 am -

5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. B. K./
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617